NEC

N60 BASIC

Quick Reference

PC6001 / NEC TREK

Quick Reference

System Commands

CLOAD
- To load a program into memory from cassette tape.
- CLOAD "FILENAME"
- CLOAD "PROG1"

CLOAD?
- To compare the program in memory with a program on cassette tape.
- CLOAD? "FILENAME"
- CLOAD? "PROG2"

CONT
- To continue program execution after a STOP has occurred.
- CONT

CSAVE
- To save a program on cassette tape.
- CSAVE "FILENAME"
- CSAVE "PROG1"

LCOPY
- To output the information displayed on the screen to the PC-6021(A) Thermal Printer.
- LCOPY

LIST/LLIST
- To display (LIST) or print (LLIST) a program or a portion of a program to the CRT screen or the line printer.
- LIST [starting line number] [-ending line number]
  LLIST [starting line number] [-ending line number]
- LIST 100-200

NEW
- To clear all variables and erase any program in memory.
- NEW

RUN
- To execute a program in memory.
- RUN [line number]
- RUN
  RUN 100

Statements

CLEAR
- To reset all variables to zero or null, establish the size of string space, and to set the top end of memory.
- CLEAR [m], N
- CLEAR 300, &HD000
- CLEAR 0

CLS
- To clear the screen.
  CLS

COLOR
- To set colors for the screen display.
- COLOR [F] [,B] [,C]
- COLOR 2,1,1

CONSOLE
- To define the range of scroll and define the on/off state of function keys and key click.
- CONSOLE L, N, K, C
- CONSOLE 0, 25, 0, 1

CSRLIN
- To return the current line number of the cursor.
- Print CSRLIN
- A = CSRLIN

DATA
- To store numeric and/or string constants within a program.
- DATA constant [,constant]...
- DATA 123, ABC

DEFFN
- To specify a user-defined mathematical or logical function.
- DEFFN name (argument) = functional expression
- DEF FNA (X,Y) = X * 2 + Y * 3

DIM
- To set the limits of an array.
- DIM variable (size) [,variable (size)]...
- DIM A(20)

END
- To terminate program execution.
- END

EXEC
- To execute a machine language program starting at a specific address.
- EXEC address
- EXEC &HD000

EXP
- To compute the natural logarithm's base e raised to a specified power.
- X = EXP(X)
- PRINT EXP(.05)

FOR/NEXT
- To execute a sequence of statements a given number of times.
- FOR variable = expression TO expression [STEP expression]: NEXT variable
- FOR J = 0 TO 100 STEP 2
  NEXT J

GOSUB/RETURN
- To transfer control temporarily to a subroutine starting at a specified line number. The RETURN statement is required to Return to the main program logic.
- GOSUB line number
- GOSUB 1000

GOTO
- To transfer control to a specified line number.
- GOTO line number
- GOTO 1000

IF...THEN
- To evaluate an expression and process certain statements based on the result of the evaluation.
- IF expression THEN statement or line number
- IF A$ = "Y" THEN 200
- IF A$ = "X" GOSUB 300

INPUT
- To request an operator response and store the result in a variable.
- INPUT ["prompt string";] variable [,variable]...
- INPUT "DATE"; A$

INPUT#
- To request an operator response through different input devices.
- INPUT# - device number, variable [,variable]
- INPUT# - 0, A$

KEY
- To change information assigned to the function keys.
- KEY number, "name"
- KEY 1, "LINE"

KILL [E]
- used to delete a file on disk.
- KILL"[drive#:]filename"
- KILL "2:myprog"

LET
- To assign a value to a variable (optional).
- LET variable = expression
- LET A$ = "BASIC"

LINE
- To draw a line in a specified color between two positions or a box with the diagonal end points given.
- LINE (X1,Y1) - (X2,Y2) [,color] [,B(F)]
- PRINT LINE (10,10) - (90,90), 2

LOCATE
- To move the cursor to a specified character location.
- LOCATE horizontal position, vertical position
- LOCATE 24, 3

LPRINT
- To output data to a printer.
- LPRINT expression [,expression]...
- LPRINT A$, "ABC"

ON...GOSUB
- To branch to one of several subroutines determined by the value of an expression.
- ON expression GOSUB line number, [line number]...
- ON A GOSUB 100, 200, 300

ON...GOTO
- To branch to one of several line numbers based on the evaluation of an expression.
- ON expression GOTO line number, [line number]...
- ON B GOTO 300, 99, 400, 650

OUT
- To output data to a specified port such as an RS-232C or Joystick.
- OUT port-number, data
- OUT &HB0, &HF3

PAINT
- To establish or change the color of a specified area on the screen.
- PAINT (X,Y) [,color [,boundary color]]
- PAINT (20,20), 3, 2

PLAY
- To generate a musical tone.
- PLAY voice-a string, [voice-b string]...
- PLAY "A + 03 RIG B-"

POINT
- To determine the color of a point at location (x,y) on the screen.
- POINT (X,Y)
- A = POINT (10,10)

PRESET
- To delete the dot displayed at the coordinate (X,Y).
- PRESET (X,Y)
- PRESET (20,30)

PRINT
- To display data on the CRT screen.
- PRINT expression; [expression]...
- PRINT "A=";A

PRINT#
- To output data to a specified output device.
- PRINT# - device number, expression [,expression]...
- PRINT# - 1, "ABC"

PSET
- To display a dot at the coordinate position (X,Y) in a specified color.
- PSET (X,Y) [,color]
- PSET (10,10), 2

READ
- To read data stored in a data statement and assign it to a variable name.
- READ variable [;variable]
- READ D$:A

REM
- To write remarks or comments in a program.
- REM
- REM ** Input Routine follows **

RESTORE
- To reset BASIC's internal pointer so that data in DATA statement can be reused.
- RESTORE [line number]
- RESTORE 5000

RETURN
- To return control to the main program at the end of a subroutine execution.
- RETURN

SCREEN
- To change the display mode of the screen.
- SCREEN [M] [W] [,D]
- PRINT SCREEN 2, 1, 1

STEP
- To define an increment with the FOR/NEXT statements.
- STEP (increment)
- FOR I=1 to 10 STEP 2:NEXT I

STOP
- To interrupt program execution.
- STOP

SOUND
- To generate sounds and noises.
- SOUND register number, data
- SOUND 0, 255

TIME
- To enable a timing mechanism.
- TIME
- X = TIME

USR
- To execute machine language code in memory. See appendix D in the N-60 BASIC Reference Manual.

Functions

ABS
- To determine the absolute value of a number.
- ABS (X)
- A = ABS (-3)

ASC
- To determine the ASCII value of a given character.
- ASC (X)
- A = ASC ("A")

CHR$
- To return a character whose ASCII code is X.
- CHR$ (X)
- A$ = CHR$ (7)

COS
- To compute the cosine of X in radians.
- COS (X)
- C = COS (3.1415/2)

EXP
- To compute the natural logarithm's base e raised to a specified power.
- X = EXP(X)
- PRINT EXP(.05)

FRE
- To return the number of bytes remaining in memory or string space.
- FRE (X)
- PRINT FRE (X$)

INKEY$
- To check the keyboard to see if any keys were pressed.
- INKEY$
- A$ = INKEY$

INP
- To read data through an I/O port at a specified address.
- INP (X)
- PRINT INP (&H90)

INT
- To round off numbers to their integer value.
- INT (X)
- PRINT INT (45.38)

LEFT$
- To read a specified number of characters from a string starting at the left-most character.
- LEFT$ (X$,X)
- LEFT$ ("ABS",2)

LEN
- To determine the number of characters in a string.
- LEN (X$)
- PRINT LEN (A$)

LOG
- To compute the natural logarithm of X.
- LOG (X)
- PRINT LOG (2.71828183)

LPOS
- To return the position of the line printer print head.
- LPOS (X)
- LPRINT "ABC"; LPOS (X)

MID$
- To read a specified number of characters from a string starting at a specified position.
- MID$ (X$, X, Y)
- MID$ (A$, 3, 4)

PEEK
- To look at the contents of a specified memory location.
- PEEK (X)
- PRINT PEEK (&HC000)

POKE
- To write data directly into a specified address.
- POKE memory address, data
- POKE &HC200, &H41

POS
- To determine the cursor column of the current cursor position.
- POS (X)
- PRINT "ABC"; POS (X)

RIGHT$
- To read a specified number of characters of a string starting from the right-most character.
- RIGHT$ (X$, X)
- RIGHT$ ("ABCD", 2)

RND
- To generate a random number in the range of 0 to 1.
- RND (X)
- R = RND (1)

SGN
- To determine the sign of a number.
- SGN (X)
- SGN (-2)

SIN
- To compute the sine of radian X.
- SIN (X)
- PRINT SIN (3.14159265/2)

SPC
- To print a specified number of spaces on the screen or printer.
- SPC (N)
- SPC (5)

SQR
- To compute the square root of a number.
- SQR (X)
- SQR (64)

STICK
- To return the status of a specified joystick.
- STICK (N)
- A = STICK (1)

STRIG
- To return the state of the specified joystick trigger or firebutton.
- STRIG (N)
- A = STRIG (1)

STR$
- To convert a numeric value to a string value.
- STR$ (X)
- STR$ (123)

TAB
- To move the cursor to a specified column position on the screen or printer.
- TAB (X)
- TAB (35)

TAN
- To compute the tangent of radian X.
- TAN (X)
- PRINT TAN (1.23)

VAL
- To convert a numeric string into a numeric value.
- VAL (X$)
- A = VAL ("123")

Extended BASIC Quick Reference

System Commands

BLOAD [E]
- To load a machine language program from disk to memory.
- BLOAD FILE DESCRIPTOR, [LOAD ADDRESS] [,R]
- BLOAD PROG 1, &H100

BSAVE [E]
- To save a machine language program on disk.
- BSAVE FILE DESCRIPTOR, START ADDRESS, LENGTH
- BSAVE PROG 1, &H100, &H030

CLOAD* [E]
- To load numerical or graphic data from tape into an array.
- CLOAD* ARRAY NAME
- CLOAD* A

CSAVE* [E]
- To save numerical or graphic data in an array to cassette tape.
- CSAVE* ARRAY NAME
- CSAVE* A

FILES [E]
- To display the name and size of all the files on the disk.
- FILES
- FILES 2

GET @ [E]
- Used to move graphic data on the screen to an array or file.
- GET@(X0,Y0)-[step] (X1,Y1), previously dimensioned array
- GET@(X0,Y0)-[step] (X1,Y1), previously saved filespec.

LFILES [E]
- To print the name and size of all files on a disk, to the printer.
- LFILES (DRIVE #)
- LFILES (2)

LOAD [E]
- To load a program on disk into memory.
- LOAD "[DRIVE#:] FILENAME" [,R]
- LOAD "PROG1"

NAME [E]
- To rename existing files on disk.
- NAME "OLDNAME" AS "NEWNAME"
- NAME "TEMP" AS "PERM"

RENUM [E]
- To renumber the lines of a program.
- RENUM [STARTING NUMBER] [LINE # to start changing from].
- RENUM 50, 10

RUN [E]
- To load and execute a program on disk.
- RUN "[DRIVE NO.]: FILENAME" [,R]
- RUN "PROG 2"

SAVE [E]
- To save a program on disk.
- SAVE "FILENAME" [,A]
- SAVE "PROG 4"

Statements

CIRCLE [E]
- Used to draw a circle or arc.
- CIRCLE (X,Y,), R[C[S],(E),[A]
- CIRCLE(12B,100),i,,,,(.7+30/50)

CLOSE [E]
- To conclude I/O on a file.
- CLOSE [[#] BUFFER NUMBER [,[#] BUFFERNUMBER]...]
- CLOSE

FIELD [E]
- To allocate space in the random file buffer and to define the structure of each record.
- FIELD [#] BUFFER NO., FIELD LENGTH AS CHARACTER VARIABLE, ...
- FIELD #1, 20 AS A$, 30 AS B$, 10 AS C$

GET [E]
- To read a specific record from a random disk file.
- GET [#] BUFFERNUMBER, [RECORD NO.]
- GET #1, 10

INPUT# [E]
- To read data from a sequential file.
- INPUT# BUFFERNUMBER, VARIABLE,...
- INPUT# 3, B, C$

LSET [E]
- To left-justify data within the random file buffer variable
- LSET CHARACTER VARIABLE = CHARACTER EXPRESSION
- LSET B$ = C$

MERGE [E]
- To add a program saved on disk to the program currently in memory.
- MERGE "[DRIVE #:] FILESPEC.
- MERGE "PROG2"

OPEN [E]
- To access a file for input or output.
- OPEN "DRIVE NO.: FILESPEC" [FOR MODE] AS [#] BUFFERNUMBER
  OPEN "DRIVE NO.: FILESPEC" AS [#] BUFFERNUMBER
- OPEN "2: PROG 2" AS #1

PRINT# [E]
- To write data to a sequential file.
- PRINT [#] BUFFERNUMBER, VARIABLE...
- PRINT #2, A$, B

PUT [E]
- To write data to a random disk file.
- PUT [#] BUFFERNUMBER, [RECORD NO.]
- PUT #1, R

PUT @ [E]
- Moves graphic data in memory or on disk back to the CRT screen.
- PUT@[step] (X,Y) ,previously dimensioned array,[PSET],[PRESET],[AND],[OR], [XOR]
- PUT@[step] (X,Y) ,previously saved filespec, [PSET],[PRESET], [AND], [OR], [XOR].

RSET [E]
- To right-justify data within the random file buffer variable.
- RSET CHARACTER VARIABLE = CHARACTER EXPRESSION
- RSET A$ = "N8801"

STEP [E]
- To determine the relative distance from a starting point.
- STEP (X2,Y2)
- LINE (50, 100) - STEP (20 -80), 3
- FOR....NEXT STEP 3

Functions

CVS [E]
- To convert a character string that was stored using the MKS$ function to its numerical value.
- CVS (STRING VARIABLE)
- CVS (A$)

DSKF [E]
- To determine the number of unused clusters on a disk.
- DSKF (DRIVE #)
- DSKF (2)

DSKI$ [E]
- To read data directly from a disk into Buffer #0.
- DSKI$ (DRIVE #, TRACK #, SECTOR #)
- DSKI$ (1, 3, 12)

DSKO$ [E]
- To write data directly to a disk from Buffer #0.
- DSKO$ (DRIVE #, TRACK #, SECTOR #)
- DSKO$ (1, 3, 12)

EOF [E]
- To determine if the last record of a sequential file has been reached.
- EOF (BUFFERNUMBER)
- EOF (1)

HEX$ [E]
- To convert decimal numbers to a hexadecimal string.
- HEX$ (NUMERICAL VALUE)
- PRINT HEX$ (35)

LOC [E]
- To return the number of sectors accessed in a sequential file or the next record accessed in a random file.
- LOC (BUFFERNUMBER)
- LOC (2)

LOF [E]
- To return the number of records in a random file.
- LOF (BUFFERNUMBER)
- LOF (1)

MKS$ [E]
- To convert numerical data to a 5-byte character string. Used with random access files.
- MKS$ (NUMERICAL EXPRESSION)
- MKS$ (100)

PAD [E]
- To determine if there is input to the touch panel and if there is, what is the input?
- PAD (X) X may be 0, 1 or 2.
- PAD (1)